



**UNIVERSITA' DEGLI STUDI DI MILANO**  
**PROGRAMME DESCRIPTION - ACADEMIC YEAR 2024/25**  
**BACHELOR**  
**Audiometric Techniques (Classe L/SNT3)**  
**Enrolled since 2011/12 Academic Year**

### **HEADING**

|  |  |
|--|--|
| <b>Degree classification - Denomination and code:</b>          | L/SNT3 Health professions for technical assistance       |
| <b>Degree title:</b>   | Dottore  |
| <b>Length of course:</b>                                       | 3 years  |
| <b>Total number of credits required to complete programme:</b> | 180  |
| <b>Years of course currently available:</b>                    | 1st , 2nd , 3rd  |
| <b>Access procedures:</b>                                      | Cap on student, student selection based on entrance test |
| <b>Course code:</b>  | D73  |

### **PERSONS/ROLES**

#### **Head of Interdepartmental Study Programme**

Prof.ssa Federica Di Bernardino

#### **Tutors - Faculty**

per l'orientamento:

prof.ssa Federica di Bernardino

per i piani di studio:

dott.ssa Eliana Filipponi

per stage e tirocini:

dott.ssa Eliana Filipponi

per tesi di laurea:

prof.ssa Federica di Bernardino

#### **Degree Course website**

<https://tecnicheaudiometriche.cdl.unimi.it/it>

### **CHARACTERISTICS OF DEGREE PROGRAMME**

#### **General and specific learning objectives**

Those earning a degree in Audiometric Techniques, pursuant to European Union guidelines, must meet the following criteria:

- have a suitable baseline training in medicine, mathematics, physics, statistics, IT, chemistry, biology, geared towards applying these disciplines on the job;
- learn research methods to be used in their field, and be able to take part in medical research and trials, in particular for issues and aspects of the acoustic and vestibular sensory apparatus;
- master basic information-gathering techniques to seek out and complete continuing professional education;
- be able to analyse epidemiological concerns within a community, and assess the responses provided by healthcare or social-welfare services;
- have an understanding of biological phenomena and the operational mechanisms of sensory organs and apparati;
- learn the basic physiology of the auditory apparatus and the inner ear;
- gain a basic scientific knowledge of changes to auditory and vestibular functions, and rehabilitation methods;
- use diagnostic techniques to perform otoscopic assessments;
- acquire skills in liminal and supraliminal audiometry;
- acquire skills in paediatric behavioural audiometry;
- acquire skills in biological-impedance testing;
- acquire skills in oto-neurological investigations for diagnosing pathologies in a person's equilibrium;
- learn the basics of recording bioelectrical phenomena;
- become familiar with, and able to perform, electro-physiological testing of the auditory and vestibular system;
- learn the basics of acoustic and phonometric measurements;
- learn how to plan and conduct screening tests for children and adults;

- learn exam techniques for the detection and diagnosis of hypoacusis caused by acoustic trauma in the workplace;
- acquire the investigatory methods to determine the electro-acoustical nature of acoustic prosthetics and hearing aids;
- be familiar with rehabilitation methods used for deafness;
- be familiar with and understand the technological supports used to recover from deafness;
- be familiar with rehabilitation methods used with patients who have suffered an injury to the vestibular apparatus;
- know how to design prevention and diagnostic actions for those with auditory disabilities in a manner that accords with their social, cultural, and physical status;
- learn the basics of research methods and programme development;
- gain teaching skills for the training of interns / students on a work experience, and to teach paramedical staff.

### **Professional profile and employment opportunities**

The Audiometric Technician is a healthcare worker engaged in preventing and assessing pathologies within the auditory and vestibular system, as well as in the rehabilitation process. Those graduating with a degree in Audiometric Techniques conduct their technical-professional work on an independent basis, performing non-invasive psycho-acoustical and neurophysiological assessments and measurements of the impairment arising from pathologies in such systems. They provide professional services at the request of a physician but independently and under their own professional responsibility. They liaise with other professionals engaged in deafness prevention and rehabilitation. The Audiometric Technician conducts his/her professional activities within a finite specialisation, using the most suitable testing techniques to measure auditory perception. Technicians become proficient in recording and interpreting bioelectrical phenomena triggered by an acoustic stimulus, working with rehabilitative programmes aimed at patients with an auditory handicap. They apply non-invasive methods as needed to study balance disorders, and contribute to rehabilitation programmes for such disorders. Graduates of this programme have direct responsibility for the results of the methods they use, their reliability, and the proper recording and retention of all materials relating to the same.

Employment opportunities for those earning a degree in Audiometric Techniques are available through healthcare facilities involved in preventing, diagnosing, and treating illnesses relating to the auditory apparatus, and a patient's equilibrium: public or private hospitals equipped with otology services, healthcare services providing deafness prevention (for children, professionals, and instances of industrial or toxicological deafness), industries that develop hearing-aid technologies, rehabilitation centres for patients with injuries to their oto-vestibular apparatus.

### **Initial knowledge required**

To be admitted into the degree programme, a candidate must have an Italian secondary-school diploma or similar diploma obtained overseas and deemed equivalent.

Admission into the programme is capped, at a national level, pursuant to Law no. 264 of 2 August 1999.

The number of students who may be admitted is set each year pursuant to a decree of the Ministry of Universities and Research (MUR), based on findings provided by the university in terms of available instructional, classroom, and clinical resources (human and otherwise), as well as the demand for the type of professionals contemplated for this Class as determined by the Region of Lombardy, and the Ministry of Health.

The admission test will be administered as a national exam, generally in the month of September. The date will be set pursuant to a decree of MUR.

#### **Additional learning requirements (OFA)**

Students who answered less than 50% of the Biology and Chemistry questions on the admission test will be required to finish a set of additional learning requirements (OFA). These prerequisites may be met through specifically assigned remedial work. Any failure to complete the OFA will make it impossible for the student to sit the exam in: Biology and Genetics.

Timely notice of the various courses will be posted to: <https://tecnicheaudiometriche.cdl.unimi.it/it>

### **Compulsory attendance**

Attendance of all educational activities contemplated in the study programme is mandatory.

To be allowed to sit for the for-credit exam, students must have attended at least 75% of the educational programming contemplated for each course.

Internships must be undertaken and completed within the designated year; students enrolled in subsequent years will not be permitted to register.

### **Degree programme final exams**

Degrees in Audiometric Techniques are awarded at the end of three years of study once a student has passed all relevant exams, including the English-language proficiency examination, for a total of 173 CFU, as well as a final theoretical/practical exam worth 7 CFU, for a total of 180 CFU.

The final exam consists in the submission and defence of a written thesis on a topic relating to practical-clinical work completed during the students for-credit pre-professional internship.

The final examination acts as a State Exam which serves to license students to practice the profession.

### **Campus**

Educational activities for the Degree Programme in Audiometric Techniques are offered through the teaching facilities at Fondazione IRCCS Ospedale Maggiore Policlinico Mangiagalli and Regina Elena di Milano, as well as other facilities coordinated by the Faculty of Medicine and Surgery, including a number of leading teaching hospitals, both public and private, within the national health service, and holding academic accreditation. The Departments and the Institutes within the

Faculty of Medicine and Surgery, as well as the teaching hospitals and diagnosis and care clinics within the national health system, offer state-of-the-art scientific and therapeutic equipment, as well as access to leading professionals in the fields of ear, nose, and throat medicine, and audiology. These facilities are likewise used for clinical training, professional internships, and activities relating to the final exam.

## EXPERIENCE OF STUDY ABROAD AS PART OF THE TRAINING PROGRAM

The University of Milan supports international mobility by providing its students with the opportunity to spend study and internship periods abroad. It is a unique chance to enrich your educational path in a new exciting environment.

The agreements entered into by the University with over 300 universities from the 27 EU member countries under the European Erasmus+ programme allow regularly enrolled students to carry out part of their studies at one of the partner universities or to undertake internships at companies, training and research centres and other organizations.

Similar international mobility opportunities are provided outside Europe, through agreements with a number of prestigious institutions.

### How to participate in Erasmus mobility programs

The students of the University of Milan can participate in mobility programmes, through a public selection procedure.

Ad hoc commissions will evaluate:

- Academic career
- the candidate's proposed study programme abroad
- his/her foreign language proficiency
- the reasons behind his/her application

Call for applications and informative meetings

The public selection for Erasmus+ mobility for study generally begins around February each year with the publication of a call for applications specifying destinations and requirements. Regarding the Erasmus+ Mobility for Traineeship, the University of Milan usually publishes two calls a year enabling students to choose a destination defined by an inter-institutional agreement or to find a traineeship position on their own.

The University organizes informative meetings to illustrate mobility opportunities and rules for participation.

Erasmus+ scholarship

The European Union grants the winners of the Erasmus+ programme selection a scholarship to contribute to their mobility costs, which may be supplemented by the University funding for disadvantaged students.

Language courses

Students who pass the selections for mobility programmes can benefit from intensive foreign language courses offered each year by the University Language Centre (SLAM).

<https://www.unimi.it/en/node/8/>

Learn more at <https://www.unimi.it/en/node/274/>

For assistance, please contact:

International Mobility Office

Via Santa Sofia 9 (second floor)

Tel. 02 503 13501-12589-13495-13502

Contacts: InformaStudenti; [mobility.out@unimi.it](mailto:mobility.out@unimi.it)

Student Desk booking through InformaStudenti

| <b>1st COURSE YEAR Core/compulsory courses/activities common</b> |             |                                    |
|--|-------------|------------------------------------|
| <b>Learning activity</b>   | <b>Ects</b> | <b>Sector</b>                      |
| 1st year laboratory: instruments for environmental measurements  | 1           | ND                                 |
| 1st year seminar: audiometrical diagnostic strategies            | 1           | ND                                 |
| Anatomy and histology  | 4           | (1) BIO/17, (3) BIO/16             |
| Apprenticeship (1st year)  | 22          | MED/50                             |
| Audiology: techniques of audiological investigation              | 4           | MED/32                             |
| Biology and genetics   | 6           | (2) MED/03, (2) BIO/13, (2) BIO/12 |
| Computer Science Course  | 3           | INF/01                             |
| English assessment B1 (2 ECTS)                                   | 2           | ND                                 |
| Physics and statistics   | 6           | (2) MED/01, (2)                    |

|  |                          |   |
|--|--------------------------|---|
|  |                          | ING-INF/07, (2)<br>FIS/07   |
| Physiology, pathology and pathological anatomy                   | 5                        | (2) MED/04, (2)<br>BIO/09, (1) MED/08   |
| Psychology and sociology   | 5                        | (1) MED/02, (2) M-<br>PSI/01, (2) SPS/07  |
|  | Total compulsory credits | 59  |
| <b>Elective courses</b>  |                          |   |
|  |                          |   |
| <b>2nd COURSE YEAR Core/compulsory courses/activities common</b> |                          |   |
| <b>Learning activity</b>   | <b>Ects</b>              | <b>Sector</b>   |
| 2nd year laboratory: instruments for audiological investigations | 1                        | ND  |
| 2nd year seminar: vestibular diagnostic strategies               | 1                        | ND  |
| Applied technical and medical science I                          | 5                        | MED/50  |
| Apprenticeship (2nd year)  | 21                       | MED/50  |
| Audiology and audiophonology                                     | 5                        | (1) MED/31, (2) L-<br>LIN/01, (2) MED/32  |
| Medicine   | 7                        | (4) MED/09, (2)<br>MED/32, (1) MED/05   |
| Physiopathology of the auditory and vestibular system            | 8                        | (2) MED/39, (2)<br>MED/31, (1)<br>MED/32, (2)<br>MED/26, (1) MED/36                       |
| Science of prevention and sanitary management                    | 9                        | (2) SECS-S/02, (1)<br>IUS/07, (1) SECS-<br>P/10, (2) MED/43,<br>(2) MED/42, (1)<br>SPS/09 |
|  | Total compulsory credits | 57  |
| <b>Elective courses</b>  |                          |   |
|  |                          |   |
| <b>3rd COURSE YEAR Core/compulsory courses/activities common</b> |                          |   |
| <b>Learning activity</b>   | <b>Ects</b>              | <b>Sector</b>   |
| 3rd year laboratory: cleaning and conservation of instruments    | 1                        | ND  |
| 3rd year seminar: vestibular rehabilitation                      | 1                        | ND  |
| Applied technical and medical science II                         | 12                       | MED/50  |
| Apprenticeship (3rd year)  | 32                       | MED/50  |
| Clinical medicine  | 5                        | (1) MED/39, (2)<br>MED/38, (1)<br>MED/48, (1) MED/44                                      |
|  | Total compulsory credits | 51  |
| <b>Elective courses</b>  |                          |   |
|  |                          |   |
| <b>End of course requirements</b>                                |                          |   |
| Final test   | 7                        | NA  |
|  | Total compulsory credits | 7   |